

# Work Order ID 57314

Monday, April 05, 2010 12:04:22 PM



Page 1

Item ID: D350-607-443

Accept



Setup Start



Revision ID:

Item Name: Heli-Utility-Basket

Stop



Start Date: 4/5/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 4/6/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *MF*

Date: *10-4-5*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D350-607

PG1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPPD350-607-443 CHG001

*[Signature]* N/A *[Signature]*

110

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

*Packaging* *[Signature]*

130

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

*5/10/04/05*

*[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 57314**

Monday, April 05, 2010 12:04:22 PM



Page 2

Item ID: D350-607-443

Accept



Setup Start



Revision ID:

Stop



Item Name: Heli-Utility-Basket

Start Date: 4/5/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 4/6/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Pick <del>Kit</del>	0.00							
Packaging	Memo	0.00							
Packaging	Package as per PPPD350-607-443								
170	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

6/6/09

10/04/08  
MF  
10-4-8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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# Picklist-Print

Monday, April 05, 2010 12:04:22 PM

Page 1

Work Order ID: 57314

Parent Item: D350-607-443

Parent Item Name: Heli-Utility-Basket



Comments: IPP REV:A NEW ISSUE 10-04-05 JLM VERIFIED BY:

Start Date: 4/5/2010

Required Date: 4/6/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
S D350-607-411 		Manufactured	No			110	Each	0.0000	1.0000			
Quick Release Basket Mounting Installation												
S D3810-1 		Manufactured	No			110	Each	9.0000	1.0000			
Hand Retractable Spring Plunger												

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST090





9

54050

8

54523

1

S D3911-041 		Manufactured	No			110	Each	0.0000	1.0000			
Basket Installation Stud Assembly, Lower												
D3911-043 		Manufactured	No			110	Each	0.0000	1.0000			
Basket Installation Stud Assembly, Upper												
D3912-041 		Manufactured	No			110	Each	0.0000	1.0000			
Eyebolt Receiver Assembly												
S D4028-041 		Manufactured	No			110	Each	16.0000	1.0000			
Spring Pin Lanyard Assembly												

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST109

16

53988

16

54050

57269

~~57270~~ (57442)

B57271 MF 10-4-8

53988

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 05, 2010 12:04:22 PM

Work Order ID: 57314



Parent Item: D350-607-443



Parent Item Name: Heli-Utility-Basket

Start Date: 4/5/2010

Required Date: 4/6/2010

Comments: IPP REV:A NEW ISSUE 10-04-05 JLM VERIFIED BY:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D4030-043  Long Basket Assembly, Light Lid (350)		Manufactured	No			110	Each	0.0000	1.0000			
D4085-1  Placard, Instructions		Manufactured	No			110	Each	15.0000	1.0000			

*Shipped 10-04-06 per S/O 101801*

*Handwritten signature*

Warehouse  
Location

Main Warehouse

ST112

15

56982

15

110

Each

59.0000

6.0000

*56982*

*PC 10/4/06 (1)*

AN4-13A



Bolt

Warehouse  
Location

Main Warehouse

ST357

59

114181

52

4828

7

*1114181*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist-Print

Monday, April 05, 2010 12:04:22 PM

Work Order ID: 57314



Parent Item: D350-607-443



Parent Item Name: Heli-Utility-Basket

Start Date: 4/5/2010

Required Date: 4/6/2010

Comments: IPP REV:A NEW ISSUE 10-04-05 JLM VERIFIED BY:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21042L4  Nut		Purchased	No			110	Each	1,641.000	6.0000			

*[Handwritten signature]*

Warehouse      Loc Qty      Loc Code  
Location

Main Warehouse

ST139

2

111827

2

Main Warehouse

ST300

1639

113422

631

114108

1000

9063

8

*M113422*

NAS1149F0432P

Purchased

No



Washer

110

Each

382.0000

12.0000



*Per 4/6 ①*

Warehouse      Loc Qty      Loc Code  
Location

Main Warehouse

ST275

382

110098

200

112940

100

18057

82

*M110098*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## 4.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D350-607-441 (Standard Basket)	78.0 lb 35.4 kg	± 47.8 in ± 1.21 m	± 3728 in-lb ± 42.8 m-kg	135 in 3.43 m	10530 in-lb 121.4 m-kg
D350-607-443 (Lightweight Basket)	63.0 lb 28.6 kg	± 47.8 in ± 1.21 m	± 3011 in-lb ± 34.6 m-kg	135 in 3.43 m	8505 in-lb 98.1 m-kg
D350-607-445 (Standard Basket)	56.0 lb 25.4 kg	± 47.8 in ± 1.21 m	± 2677 in-lb ± 30.7 m-kg	135 in 3.43 m	7560 in-lb 87.1 m-kg
D350-607-447 (Lightweight Basket)	45.0 lb 20.4 kg	± 47.8 in ± 1.21 m	± 2151 in-lb ± 24.7 m-kg	135 in 3.43 m	6075 in-lb 70.0 m-kg
D350-607-411 (Quick Release Basket Mounting Kit)	5.9 lb 2.7 kg	± 36.5 in ± 0.93 m	± 215 in-lb ± 2.5 m-kg	135 in 3.43 m	796 in-lb 9.3 m-kg

## 5.0 PARTS LIST

QTY -441	QTY -443	QTY -445	QTY -447	QTY -411	PART NUMBER	DESCRIPTION
X					D350-607-441	HELI-UTILITY-BASKET
	X				D350-607-443	HELI-UTILITY-BASKET
		X			D350-607-445	HELI-UTILITY-BASKET
			X		D350-607-447	HELI-UTILITY-BASKET
1	1	1	1	X	D350-607-411	QUICK RELEASE BASKET MOUNTING KIT
1	1	1	1		D3810-1	SPRING PLUNGER
				1	D3908-041	AFT X-TUBE LUG ASSY
				1	D3909-041	FWD X-TUBE LUG ASSY
				4	D3910-3	X-TUBE LUG
1	1	1	1		D3911-041	BASKET INSTL STUD ASSY (LOWER)
1	1	1	1		D3911-043	AFT EYEBOLT RECEIVER ASSY
1	1	1	1		D3912-041	EYEBOLT RECEIVER ASSY
				8	D3984-030	RUBBER EXTRUSION, X- TUBE
1	1	1	1		D4028-041	SPRING PIN LANYARD ASSY
1					D4030-041	LONG BASKET ASSY
	1				D4030-043	LONG BASKET ASSY, LIGHTWEIGHT
		1			D4032-041	SHORT BASKET ASSY
			1		D4032-043	SHORT BASKET ASSY, LIGHTWEIGHT
1	1	1	1		D4085-1	PLACARD-INSTRUCTIONS
6	6	6	6		AN4-13A	BOLT
				16	AN4-14A	BOLT
6	6	6	6	16	MS21042L4	NUT (OR MS21042-4)
12	12	12	12	32	NAS1149F0432P	WASHER

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Mike Petsche

---

**From:** dshepherd@dartaero.com  
**Sent:** April 8, 2010 3:45 PM  
**To:** Mike Petsche  
**Cc:** ssheldon@dartaero.com  
**Subject:** Re: Revised drawings. D3908, D3911 & D4085

Mike,

The updated drawings are acceptable. If I could print them in Spain, I would sign them. Therefore, I believe we should release the parts. If Susanne would prefer, we could send the parts now and fax the ARC on Monday once I have signed the drawings. But the parts **MUST** leave today.

David

Sent from my BlackBerry device on the Rogers Wireless Network

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**From:** "Mike Petsche" <mpetsche@dartaero.com>  
**Date:** Thu, 8 Apr 2010 15:16:06 -0400  
**To:** 'David Shepherd' <dshepherd@dartaero.com>  
**Subject:** FW: Revised drawings. D3908, D3911 & D4085

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**From:** Juan Hurtado [mailto:jhurtado@dartaero.com]  
**Sent:** April 8, 2010 9:10 AM  
**To:** 'Mike Petsche'; 'David Shepherd'  
**Subject:** RE: Revised drawings. D3908, D3911 & D4085

David,

In regards to the drawings:

D4085: The placard is sent to the supplier as a graphics file along with the drawing for dimension control. The graphics file does not contain any other information but the placard itself.  
D3908-5 & D3911-3 assembly: The rationale behind the changes is that the longer the stud the greater interference on installation: the basket swings about the fwd mount. There is a misalignment between the stud and the receiver until they are completely engaged. This is why we had 2 different diameters previously so that the smaller diameter shaft on the stud would clear the bigger diameter on the receiver on the first stage of the installation. Since the spring pin idea was changed to a pip pin, I didn't see the need for a long stud to do the job. Although there is quite a bit of play when we checked the stud-receiver assembly on the bench, there is enough engagement, and when the pip pin is inserted, it constraints the assy. We also have to keep in mid that the lower mount will help stabilize the assembly before the pip pin gets inserted.

We are working on the IIN, ICA and the DR. I'll send them as soon as they are ready.

**Juan Hurtado**  
**Design Engineer**

**DART** aerospace Ltd.

Tel: 613-632-5200 Ext. 229

Fax: 613-632-9311

E-mail: [jhurtado@dartaero.com](mailto:jhurtado@dartaero.com)

Web: [www.dartaero.com](http://www.dartaero.com)



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**From:** Mike Petsche [mailto:[mpetsche@dartaero.com](mailto:mpetsche@dartaero.com)]  
**Sent:** April 8, 2010 8:29 AM  
**To:** 'David Shepherd'; 'Juan Hurtado'  
**Subject:** RE: Revised drawings. D3908, D3911 & D4085

And I think this warrants an ADR to go into the binder to document the disintegrating spring pin.

On a side note, I had David D take one of the machined parts and weld the hole shut. They rethreaded the hole for the black spring pin. We're going to set it up in a vise and pull on it with a load cell to see what it can take. If we so chose, (assuming these pins are ok in shear/bending), it could still be retrofittable for Temsco.....

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**From:** David Shepherd [mailto:[dshepherd@dartaero.com](mailto:dshepherd@dartaero.com)]  
**Sent:** April 8, 2010 7:26 AM  
**To:** 'Juan Hurtado'  
**Cc:** 'Mike Petsche'  
**Subject:** RE: Revised drawings. D3908, D3911 & D4085

Juan,

Questions/Comments are below:

D4085 Rev. B - concerned that the "B" triangles will actually end up on the placard ... should they be removed?

D3908 Rev. B - no problems

D3911 Rev. C - the depth of the hole on D3911-3 changed from 0.95 to 0.65 and the distance to the pin hole has been reduced from 0.54 to 0.35 ... not saying this is a problem, wasn't quite what I was expecting ... are we sure this is what we wanted ... what was the rationale for doing this?

Once I have the answers to my questions and/or updated drawings, I am ready to sign the drawings.

Just a reminder ... We will also need updated ICA, IIN, and DR documents.

Thanks,  
David

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**From:** Juan Hurtado [mailto:[jhurtado@dartaero.com](mailto:jhurtado@dartaero.com)]  
**Sent:** Wednesday, April 07, 2010 12:24 PM  
**To:** 'David Shepherd'  
**Cc:** 'Mike Petsche'  
**Subject:** Revised drawings. D3908, D3911 & D4085

Hi David,

Here are the revised drawings for your review/approval. I've attached the previous rev as well.

Thanks.

**Juan Hurtado**  
**Design Engineer**

***DART*** aerospace Ltd.

Tel: 613-632-5200 Ext. 229

Fax: 613-632-9311

E-mail: [jhurtado@dartaero.com](mailto:jhurtado@dartaero.com)

Web: [www.dartaero.com](http://www.dartaero.com)



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Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 8.5.437 / Virus Database: 271.1.1/2794 - Release Date: 04/06/10 06:32:00

No virus found in this incoming message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 9.0.800 / Virus Database: 271.1.1/2797 - Release Date: 04/07/10 14:32:00

No virus found in this incoming message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 9.0.801 / Virus Database: 271.1.1/2797 - Release Date: 04/07/10 14:32:00

No virus found in this incoming message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 9.0.801 / Virus Database: 271.1.1/2797 - Release Date: 04/07/10 14:32:00